UNITED
NATIONS

A

General Assembly

Distr.
LIMITED

A/AC.105/L.190
27 May 1991

ORIGINAL: ENGLISH

COMMITTEE ON THE PEACEFUL USES
OF OUTER SPACE
Thirty-fourth session
Graz, Austria
27 May-7 June 1991

REPORT ON THE PROTECTION AND PRESERVATION OF THE OUTER SPACE ENVIRONMENT, ESPECIALLY ACTIVITIES POTENTIALLY EFFECTING THE EARTH ENVIRONMENT

Working paper submitted by Poland to the
Committee on the Peaceful Uses of Outer Space

1. Deeply convinced of the common interest of mankind in promoting the exploration and use of outer space, deeply 'concerned with the preservation of the outer space environment, and acting in the spirit of General Assembly Resolution 45/72 of 11 December 1990, in particular paragraph 21, and also previous resolutions on the question, Poland would like to propose the elaboration of a Report on the Protection and Preservation of the Outer Space Environment, Especially Activities Potentially Effecting the Earth Environment.

2. Continuous and rapid increase in many nations' activities in outer space is causing phenomena hazardous for the space environment and jeopardizing further exploration of outer space.

3. The main goal of the proposed Report is to identify these dangerous phenomena and point out the consequences for the further development of space activities.

4. The Report should take into account matters mentioned in the General Assembly, in the Committee on the Peaceful Uses of Outer Space, as well as the work devoted to the subject during the twenty-eighth session of the Scientific and Technical Subcommittee in February 1991.

5. In particular the Report should consider the following items:

(a) Space debris (mentioned in General Assembly resolution 45/72, paragraph 22): On 1 January 1990, 6754 space objects of trackable size were detected. The number of space objects increases by about 300 per year. Only 5 per cent of space objects are active. According to reliable estimates, after 30 to 50 years, orbits between 800 and 1500 km will be practically closed;

(b) Nuclear explosions in space and their influence on space objects, the atmosphere and the Earth environment: New types of propulsion systems are taking into consideration nuclear power, including nuclear and thermonuclear reactions. Another problem is connected with space weapons such as X-ray lasers powered by nuclear explosions. Very little attention is paid to the consequences of such actions on the space and Earth environment;

(c) The influence of rocket propulsion systems on the atmosphere, the ozone hole and the chemical and electrical structures of the ionosphere. Over 130 rockets are launched every year. New fuels and new types of rocket engines are continuously developed. Existing reports are not complete;

(d) Use of nuclear power sources in outer space (mentioned in General Assembly resolution 45/72, paragraph 11). Nuclear reactors of 10 kW class have been repeatedly flown in space. Reactors of 100 kW class are under development, and more powerful reactors are also feasible. This subject was recently considered by the Scientific and Technical Subcommittee at its twenty-eighth session, in February 1991;

(e) Planned solar power plants will transmit hundreds of megawatts of power to the Earth through the atmosphere. The influence of such an activity must be carefully analyzed from the environmental point of view;

(f) The rapid increase of satellite communications, satellite television, navigation systems, etc. produce increasing intensities of electromagnetic waves in outer space and the atmosphere.

6. This last problem mostly concerns telecommunication systems, but also can be of interest from the environmental point of view.

7. The listed items can serve as a starting point for deeper and broader analyses of factors important for the outer space environment and connected to the Earth environment.

8. In our opinion the proposed Report is of vital importance for future and present space activity and of interest to all nations.